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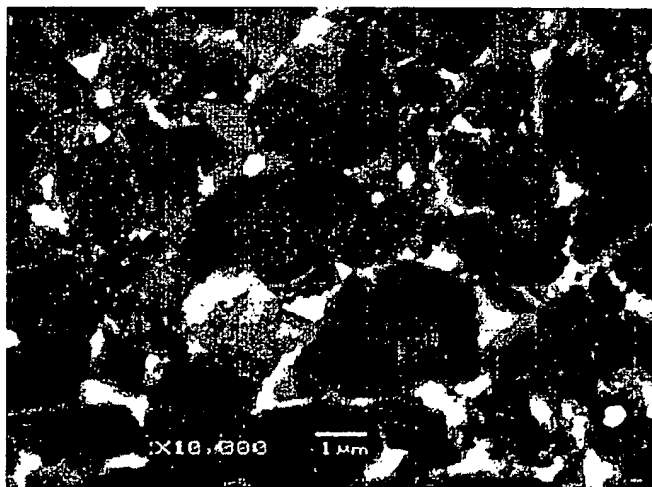


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- (71) Applicant (for all designated States except US): **ILJIN DIAMOND CO., LTD.** [KR/KR]; 50-1, Dohwa-dong, Mapo-gu, Seoul 121-040 (KR).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **PARK, Hee-Sub** [KR/KR]; 101-1102 Daewoo Apt, Gocheok 2-dong, Guro-gu, Seoul 152-082 (KR). **RYOO, Min-Ho** [KR/KR]; 153-2201 Kumkang Apt, Hwasco 2-dong, Jangan-gu, Suwon-si, Gyeonggi-do 440-152 (KR).
- (54) Title: **SINTERED BODY WITH HIGH HARDNESS FOR CUTTING CAST IRON AND THE METHOD FOR PRODUCING THE SAME**
- (74) Agent: **WONJON PATENT FIRM**; 8th Floor, Poonglim Bldg., 823-1, Yeoksam-dong, Kangnam-gu, Seoul 135-784 (KR).
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(57) Abstract: Disclosed is a sintered body with high hardness for cutting cast iron, which contains cubic boron nitride(CBN), high pressure phase nitride. The sintered body of the present invention is prepared by sintering cubic boron nitride powder and powder of bonding materials on a WC/Co based hard substrate, and by forming hard layer of polycrystalline cubic boron nitride(PCBN). The bonding materials are two or more of materials selected from the group composed of titanium, aluminum and nickel, and carbide thereof, nitride thereof, boride thereof and carbon nitride thereof, and mutual solid solution compound thereof. Volume fraction of the CBN in the PCBN hard layer is 80-98% by volume. By using the sintered body of the present invention it is possible to produce fine CBN powder with increased durability and thermal stability, improving the physical property of the product.

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## INTERNATIONAL SEARCH REPORT

International application No.

KR03/01202

**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 B22F 3/00**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

C22C 29/00, C22C 29/16, C04B 35/58

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
 Korean Patents and applications for inventions since 1975. Korean Utility models and applications for Utility models since 1975.  
 Japanese Utility models and applications for Utility models since 1975.

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
 NPS, PAJ, PATROM

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 10-114575 A (SUMITOMODENKIGOGYO) 6 MAY 1998, see entire document.	1, 6
A	JP 2000-226262 A (SUMITOMODENKIGOGYO) 15 AUGUST 2000, see entire document.	1, 6
A	KR 85-8151 A (KAIST) 13 DECEMBER 1985, see entire document.	1, 6
A	KR 82-877 B (SUMIDOMO DENKK GOOGYO GABUSIKKGAISYA) 20 MAY 1982 see entire document.	1, 6

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

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Korean Intellectual Property Office  
 920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
 Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

SEO, Jae Yeop

Telephone No. 82-42-481-5526

